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Existence of a solution and variational principles for vector equilibrium problems

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Abstract

In this paper, we prove an existence result for a solution to the vector equilibrium problems. Then, we establish variational principles, that is, vector optimization formulations of set-valued maps for vector equilibrium problems. A perturbation function is involved in our variational principles. We prove also that the solution sets of our vector optimization problems of set-valued maps contain or coincide with the solution sets of vector equilibrium problems.

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Keywords

Existence of a solution, Set-valued maps, Variational principles, Vector equilibrium problems, Vector optimization problems